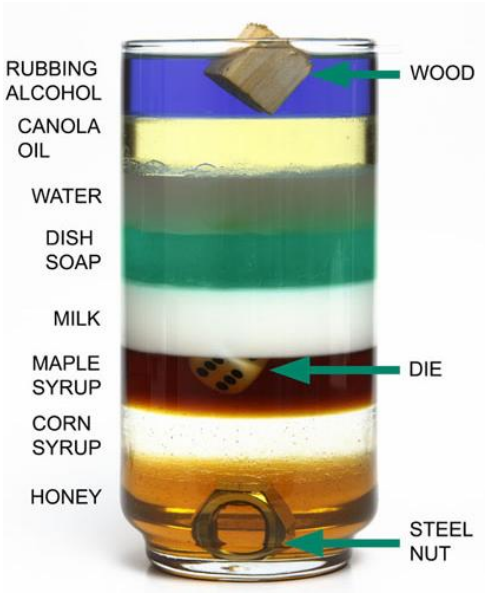
Chemistry Notes 1.4 ~ DENSITY & CONVERTING UNITS

DENSITY = $\frac{\text{mass}}{\text{volume}}$

Density of pure water= **1 gram/mL**



PROBLEM: Calculate the density of the object: Will it float or sink in pure water?

Mass = 4.98 grams, volume = 6.5 mL

Density = .77 g/mL, FLOAT

What is the volume of an object if its mass is 3.4 grams and its density if 56 grams/mL?

V= .061 mL

DIMENSIONAL ANALYSIS (CONVERTING UNITS)

1) Write the given with its unit
2) Find a conversion factor that will CANCEL your given & take you closer to your unknown
3) Cancel Unit goes on BOTTOM
4) Multiply all TOPS, DIVIDE all BOTTOMS
5) ROUND to same **# Sig Digs of Given**

1 inch = 2.54 centimeters	**1 kilogram = 1000 grams**
1 pound = 454 grams	**100 centigrams= 1 gram**
1 quart = 0.950 liters	**1000 millimeter= 1 meter**
4 quarts = 1 gallon	**1 cm^3 = 1 milliliter**
2 pints = 1 quart	**1 km = 1000 m**
1mile = 5280 feet	**39.37 inches = 1 meter**
1 ft= 12 inches	**1 m = 100 cm**
1 liter = 1000 mL	**1 gallon = 3.785 L**

1) Convert 4780 mL to quarts

4780 mL	1 L	1 gallon	4 quarts
	1000 mL	3.785 L	1 gallon

= 5.05 quarts

2) Convert 9.8 miles → kilometers

9.8 mi	5280 ft	12 in	2.54 cm	1 m	1 km
	1 mi	1 ft	1 in	100 cm	1000 m

= 16 km

3) Convert .0000045 Years to seconds

Rounded answer = 140 seconds